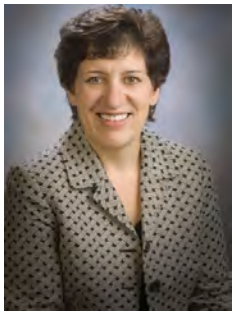
Department of Chemistry Newsletter - Fall 2012

Letter from the Chair, Ellen R. Fisher



Buon Giorno! I am writing this from the lovely port city of Bari, Italy where I am on sabbatical at the University of Bari. In keeping with the loose "International Connections" theme of this edition I thought it fitting that I share a bit about my own adventures and reflections from abroad. Inside you can learn how many of our faculty have been involved in all kinds of international activities.

This fall semester, I have the pleasure of staying in Bari, located on southern Italy's east coast "at the top of the heel of the boot". I arrived in mid June and will return to Colorado in November; for a brief sojourn in August, I returned to Fort Collins as the University of Bari closes for a two week summer holiday. This allowed me to enjoy our dry Colorado weather (Bari can be quite hot and humid), spend time in my vegetable garden, meet the new crop of chemistry graduate students (many of whom hail from foreign countries around the globe), and witness the beginning of the 2012-13 academic year at CSU—always an exciting time.

To enhance my sabbatical, I was thrilled that my graduate student Jeff Shearer and I received funding from the American Chemical Society's Global Research, Experiences, Exchanges, and Training (GREET) program, one of only five mentor/student teams selected in the second year of the program. GREET provides funding for students and their mentors to travel and study in foreign laboratories. The program aims to provide a comprehensive international research experience and opportunities for U.S. scientists to establish new international collaborations. Jeff and I began the GREET fellowship in Bari the first of September. It has been amazing to not only experience a different culture and grow my research program in new directions, but to give Jeff the opportunity to gain a global perspective on the scientific enterprise. As part of the GREET program, Jeff and I will present a talk about our research and experiences at the Spring National ACS meeting in New Orleans next April. We will also work with CSU's international programs office on other ways to "pay it forward" at CSU.

One of the best things about my sabbatical has been the opportunity to get back in the lab on a daily basis. Although the word "sabbatical" literally means "a ceasing" or "a resting period" and today we generally adopt a secular definition of "the taking of leave from work", I would argue that I have been working hard during my sabbatical. It still comes as a surprise when Jeff and I are asked to leave at the end of the day as workers are not allowed to be in the lab past about 7:30 pm (or on weekends). Chemistry is a laboratory science and as such, it is there that many budding scientists first realize their fascination with trying to understand the way the world works. Participation in cutting-edge research is the fuel that drives scientists around the globe and what motivates students to pursue careers in the STEM disciplines. As a scientist, there are few things that rival the joy found in making a new molecule, measuring a previously undetected physical phenomenon, developing a new analytical approach—in effect solving a puzzle that no one else has seen or been able to decipher before. My interactions with colleagues and students at the University of Bari tell me this is likely a universal truth. As scientists, this is the message we must strive to deliver to our students, to the public, and to the world.

I will resume all of my Chair duties upon my return to Fort Collins, and am looking forward to testing the new research ideas my time in Bari has generated back at CSU. I must thank my colleague and friend Mike Elliott who generously agreed to serve as acting chair and has demonstrated brilliant performance in my absence. My goal for the future is to be a bit more like Mike who after 30 years at CSU still figures out how to spend time in the lab with students. Meanwhile, I will continue to enjoy the wonderful culture, amazing food, and lovely people of the Puglia region–and I will rest. As always, I continue to look for additional ways to enhance communication with our alumni and friends. Please contact me at ellen.fisher@colostate.edu with your ideas, suggestions and possible stories for future newsletters. Ciao! Ciao!

Chemistry Department
Open House
Friday, December 14
2:30 - 4:00 pm
Yates 102 and 103

Upcoming Events

ACS Regional Meeting ~ October 17-20
Denver, CO

Chem Club Halloween ~ October 26
Chemistry Lobby - 7 - 9 pm

Meyers Symposium ~ October 27
Profs John Wood and Brian McNaughton are honored to host the 2nd Meyers Symposium on Saturday, October 27th, in honor of our former colleague and friend, Professor Albert I. Meyers. Four world-renowned scientists will give plenary lectures on key advances in modern organic chemistry. The symposium will also feature talks from CSU graduate students whose research represents the cutting edge of modern organic chemistry, as well as a poster session and reception.

Southwest Analytical Professors~ January 18-19, 2013
Prof. Melissa Reynolds and the analytical division are pleased to host the Society of Western Analytical Professors' (SWAP) 45th annual meeting January 18-19, 2013. SWAP is an annual informal meeting of faculty members, post-docs and graduate students in analytical chemistry from universities and colleges in the western United States. The purpose of the meeting is to get together and openly exchange ideas about innovations in teaching and research. This year, we are pleased to offer scholarships to faculty from primarily undergraduate institutions. More information: http://wp.natsci.colostate.edu/swap/.

OMCOS 17 ~ July 28-Aug 1, 2013
First held at CSU in 1981 as the brain-child of Professors Louis S. Hegedus and the late John K. Stille, Organometallic Chemistry Directed Towards Organic Synthesis (OMCOS) will again be hosted at CSU by **Profs. Tom Rovis and Eric Ferreira**, July 28 through August 1, 2013. From its humble beginnings more than 30 years ago, OMCOS has grown to a biennial meeting held around the world. The meeting is typically characterized by attendance of 1,000 international scientists consisting of academic and industrial chemists, as well as students and postdocs. For more information, visit the OMCOS website at www.omcos17.com.

Honors and Accomplishments

White House Honors Amy Prieto with Presidential Early Career Award


NSF Deputy Director Cora Marrett, Professor Amy Prieto, President Obama's Science Advisor and OSTP Director John Holdren

Associate Professor Amy Prieto received the highest honor bestowed by the United States Government for early-career science and engineering professionals. Prieto, the only awardee from CSU in 2012, was among 96 scientists honored at a White House ceremony on July 31 with the Presidential Early Career Awards for Scientists and Engineers. Prof. Prieto was nominated by the National Science Foundation, and was recognized for her work to develop new methods to create a battery that could revolutionize the hybrid/electric vehicle industry.

"Discoveries in science and technology not only strengthen our economy, they inspire us as a people." President Obama said. "The impressive accomplishments of today's awardees so early in their careers promise even greater advances in the years ahead."

In 2009, Prieto co-founded Prieto Battery Inc. with Cenergy, the commercialization arm of CSU's Clean Energy Supercluster. Prieto Battery's aim is to produce lithium ion batteries based on tiny or nanostructured materials on a mass scale, with the goal of commercializing a non-toxic battery technology up to 1,000 times more powerful, 10 times longer-lasting and significantly cheaper than traditional batteries.

Prieto also continues to focus her research on developing methods for making nanoscale materials that have applications in solar cells, lithium-ion batteries and hydrogen storage.


President Obama & PECASE Awardees. Photo courtesy of Sandy Schaeffer, NSF.

Prieto has received numerous awards for her scientific discoveries. In 2011, the Colorado Cleantech Industry Association honored her and three other CSU researchers as "Research Rockstars." She also was named the 2011 American Chemical Society ExxonMobil Solid State Chemistry Faculty Fellow – a prestigious honor given to one scientist who is chosen each year out of a national field. To read more about Dr. Prieto and her research, please visit http://www.chem.colostate.edu/people/alprieto/.

Honors and Accomplishments

Penny Osborne, a second year graduate student in Prof. Delphine Farmer's lab, was selected to participate in an NSF-funded **Pan-American Advanced Studies Institute** (PASI) course in Buenos Aires, Argentina (8-16 August 2012). The course was focused on "Air Quality at the Interface: Megacities and Agroecosystems", and included 30 participants from the US and Latin America. Topics included agricultural and urban air quality, sampling techniques, and modeling approaches. This fit in well with Penny's current research developing new techniques for real-time measurement of pesticides using chemical ionization mass spectrometry. Course website: http://ww2.setac.org/pasi

Celebrate Undergraduate Research and Creativity (CURC) Honor Recipients

Congratulations to the 2012 CURC Honor Recipients. For the past 19 years, CSU has celebrated the accomplishments of undergraduate researchers in a symposium where students have presented the results of their research.

College Honors: Ji Hye Chun, Sarah Robin Ward, and Kellie Woll

College High Honors: Mikaela Cherry, Kristin Olsson, William Richardson, and Garrett Wheeler

Highest Honors: Heidi Spears

Karen Kahler, Accounting Supervisor, was recognized by the CSU Classified Personnel Council as an **Everyday Hero**.

Everyday Hero is a special recognition program sponsored by the Classified Personnel Council for recognizing outstanding employees of the CSU community.

Karen's recognition as an employee who 'makes a difference' is a testament to her outstanding commitment to the entire Chemistry department.

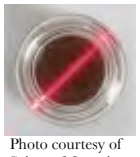


Photo courtesy of Science Magazine

Trio Wins Science Magazine Prize for Inquiry Based Instruction

Dawn Rickey, an associate professor who co-developed the concept for the Model-Observe-Reflect-Explain (MORE) lab modules as part of her doctoral work, has done research showing that students' understanding of science is improved when they engage in experimental evidence to figure out what's happening with atoms, molecules, and ions – unlike most traditional laboratory courses that tell students what results to expect. Rickey's essay about the teaching approach and the newest CHEM 112 laboratory module "Exploring Gold Nanoparticles" – developed with **Ellen Fisher**, chair of the Chemistry department, and **Colin Blair**, a former graduate student of Rickey's – recently won the Science magazine Prize for Inquiry-Based Instruction. The essay, titled "Discovering Nanoscience," appears in the Friday, Aug. 31 issue of Science. About 1,400 students take the entry-level Chemistry 112 course at CSU in any given year.

"You have students discover things for themselves as opposed to telling them how things work," explained Rickey. "They're constructing explanations and revising explanations of what's happening based on evidence as opposed to traditional instruction – where you tell students the models and what's expected to happen and they confirm it by doing experiments in the lab."Students learn to think more like scientists. Research shows that students understand the ideas better if they learn them through inquiry." Science created the Prize for Inquiry-Based Instruction for introductory college science courses and advanced high school courses to "encourage innovation and excellence in education by recognizing outstanding, inquiry-based science and design-based engineering education modules."In February, the President's Council of Advisors on Science and Technology submitted a report to President Obama on how to produce an additional one million college graduates with degrees in STEM (Science, Technology, Engineering, and Mathematics) education. One of the five recommendations was "advocate and provide support for replacing standard laboratory courses with discovery-based research courses."

At CSU, Rickey designed the Chemistry 112 course so students articulate their own ideas about what they think is happening on the molecular level and then conduct experiments to test their ideas. Students then reflect upon the evidence they collect, and use it to support or revise their initial ideas. Rickey's former master's student at CSU, Colin Blair, who has since graduated, helped develop and teach the Science prize-winning module in which undergraduate students construct their own evidence-based models of gold nanoparticles. Blair adapted and tested experiments that would help students learn a technique that is often used by scientists who study nanotechnology. In addition, using gold nanoparticles, students design a pregnancy test they then use on synthetic urine samples."In the real world, they're going to be facing problems no one else has seen and thought about," Blair said. "They need to know how to solve those problems and that's something you don't get from a traditional lab."

"These teaching methods have been shown to be more effective for learning," Rickey said. "If we can successfully produce more high-quality science and engineering majors, that is likely to improve the country's competitiveness."

International Connections - East Meets West

Elliot Bernstein Travels to Japan for Japanese Society for the Promotion of Science (JSPS) Bridge Fellowship

Prof. Elliot Bernstein was awarded a **2012 JSPS Bridge Fellowship** to spend six weeks in Japan as a visiting professor in one university laboratory and to visit other universities and related laboratories with the intent of encouraging both national and international cooperation between Japanese laboratories, and Japanese and American laboratories. His base for this visit was Kyoto University and the laboratory of Prof. T. Suzuki. While there he studied photoelectron spectroscopy and has begun to incorporate this important physical chemistry technique into his own research at CSU. Additionally, he visited groups at Hiroshima University (Prof. T. Ebata), Kyushu University (Prof. H. Sekiya), and Tohoku University (Prof. A. Fujii). Various collaborations have been discussed and interactions between his group and these laboratories are in progress, and connections between the groups in Japan are also being discussed. The entire experience was both enriching and rewarding for Prof. Bernstein as he learned new areas and techniques that he will use for his own research, and he was happy to initiate cooperation between existing laboratories in Japan. The JSPS Bridge Fellowship has been a valuable experience for him and the people he visited in Japan.

Chen Group International Collaborations

China

Prof. Eugene Chen was appointed as Guest Professor of East China University of Science and Technology, Shanghai. Dr. Chen has guest-lectured sections of their graduate course "Organometallic Chemistry" and maintained scholarly interactions with their faculty and students.

Additionally, he has established collaborations with two research institutes of Chinese Academy of Sciences. Dr. Chen is collaborating in the area of sustainable polymer synthesis with Professor Dongmei Cui, State Key Laboratory of Polymer Physics and Chemistry, Changchun Institute of Applied Chemistry, and with Professor Yaofeng Chen, State Key Laboratory of Organometallic Chemistry, Shanghai Institute of Organic Chemistry, in the area of organometallic catalyst synthesis. Thus far, Dr. Chen's collaborations have led to four joint publications and there may be more to come.

Japan

Dr. Chen has also established collaborations in Japan with Professor Eiji Yashima at Nagoya University in the area of helical chiral polymer synthesis. A joint paper, "Synthesis of Helical Poly(phenylacetylene)s Bearing Cinchona Alkaloid Pendants and Their Application to Asymmetric Organocatalysis", was recently published in *Polym Chem 2011.*

2012 NJC Symposium: New Directions in Chemistry

In spring 2012, **Professor Debbie C. Crans** participated in the series "2012 NJC Symposium: New Directions in Chemistry" organized by the *New Journal of Chemistry* in Hong Kong, Shanghai and Beijing as part of a program to promote the journal across China. At each location, members of the Editorial Board met with local scientists and a joint symposium was held, under the sponsorship of an eminent local chemist.

The first of the three symposia was held on April 23 at The University of Hong Kong, chaired by Professor Vivian Yam, a former NJC Editorial Board member. The Editorial Board's annual meeting was held the next day, with Denise Parent and Jamie Humphrey, the Editors of *New Journal of Chemistry.*

The group then traveled to Shanghai where the second symposium was held April 25 at the East China University of Science and Technology under the direction of the university's president, Professor Xuhong Qian. After the symposium, the visitors enjoyed a visit to the Bund and Yuyuan Gardens, organized by their hosts.

The last symposium was held in Beijing at the Institute of Chemistry of the Chinese Academy of Science on April 27, with the sponsorship of Prof. Jiannian Yao, a member of the NJC Editorial Board. An outing to the Great Wall, under the expert guidance of two young chemists, was the final event of a wonderful experience for the group.

The symposia were an opportunity to initiate contacts between Editorial Board members and Chinese scientists, and will assist the journal in its quest to increase readership and quality contributions. A "souvenir" issue of NJC, with contributions from participants in the symposia and other Chinese chemists, will be published in 2013.

Faculty Profile

Grzegorz Szamel - Building on European Roots for International Glassy Dynamics Studies

Prof. Grzegorz Szamel, originally from the small town of Plock in Poland, uses computational chemistry to explore glass transitions and dynamics of fluids close to the glass transition – essentially the change that happens when an amorphous material changes from a relatively hard state into a molten state. As anyone who's ever made candy like peanut brittle can attest to, the macroscopic properties of the candy are very different from the hot, melted sugar solution that is transformed upon cooling. Despite these very different properties, on a molecular level, the arrangement of molecules in a glass appears to be very similar to the arrangement of molecules in the same material after it is melted. Conversely, upon cooling a liquid and approaching the glass transition, the dynamics become slower whereas, seemingly, the arrangement of molecules hardly changes. Prof. Szamel research seeks to understand how to reconcile these observations. His current focus is the analysis of the recent discovery that the dynamics also become increasingly heterogeneous during cooling. This work has enormous implications in applications where temperature is critical, including polymer processing, drug preservation, biological processes (e.g. protein folding) and the food industry.

After graduating from one of the oldest high schools in Poland (dating back to 1180), Prof. Szamel earned both his Masters and his Ph.D. from Warsaw University and then spent two years in Holland as a postdoctoral associate at the University of Utrecht. In 1992, he and his family came to the U.S. for another postdoctoral position at the University of Illinois. Although they originally intended to return to Poland, Szamel and his family decided to stay in the U.S. to take advantage of the many opportunities here. Szamel began his academic career at CSU in 1994, and has fallen in love with teaching quantum mechanics to both undergraduate and graduate students. He also enjoys teaching graduate statistical mechanics, which he says continually challenges him to learn new things outside his own area of research that he then incorporates into his lectures, keeping the course content truly up-to-date every time he teaches.

Prof. Szamel continues to build on his European roots, collaborating with researchers in his field both in Europe and around the world. He had a collaboration in Mainz, Germany, recently established a second German collaboration in Konstanz, and has an ongoing relationship with a French group in Montpellier, France. Last year, Szamel spent three months in Kyoto, Japan as a visiting professor at Yukawa Institute for Theoretical Physics, solidifying a new Eastern collaboration. This past summer, Prof. Szamel was a guest lecturer at the University of Rome and at a summer school for graduate students and postdocs in France. Dr. Szamel finds his collaborations with international scholars, people who have educational backgrounds different from his and from the standard U.S. educational experience, to be "both interesting and intellectually stimulating." Although relatively few U.S. scientists study the same problems as Dr. Szamel, there is a large European community in this area. In addition, Szamel maintains the loftier goal of building a greater international presence for his work and for CSU, to establish strong recruiting pipelines for graduate students and postdocs, thereby enhancing the physical chemistry and physics programs at Colorado State. He would also like to see CSU students have international experiences as he understands the importance of being exposed to research areas they might not study here. He believes that a study abroad period provides access to a different culture and lifestyle in a way that can only be experienced by living in a foreign country, even if only for a few months.

Although they miss their extended family in Poland, Szamel and his family have clearly adopted Fort Collins and Colorado as their new home, skiing and hiking in the mountains and supporting the first and only independent movie theater in Fort Collins, the Lyric Cinema Café, which shows independent and foreign films. In addition to his upcoming professional trips, Prof. Szamel hopes to some day visit New Zealand and Machu Picchu in South America.

Giving to Chemistry

Through the generous gifts of Chemistry alumni and friends, we are able to offer support to our students as well as resources to our faculty. Financial assistance through scholarships is very important to our students, and in many cases allows them to stay in school. In addition to improving learning opportunities, gifts also play a critical role in providing faculty the needed resources to perform cutting-edge research. To make a gift, please visit https://advancing.colostate.edu/CNS/CHEM/GIVE.

Alumni & Department News

Will Richardson (B.S. 2012) is currently working at Zeller-Gmelin in Richmond, Virginia. Will is enjoying performing surface analyses and mechanical tests on a range of substrates, using skills he learned as an undergraduate researcher at CSU.

Garret Miyake and Keimpe van den Berg from Akzo Nobel

Dr. Eugene Chen's former Ph.D. student, **Garret Miyake (2011),** won the 2012 AkzoNobel Award for Outstanding Graduate Research in Polymer Chemistry, sponsored by the Division of Polymer Chemistry and the Division of Polymer Science and Engineering, American Chemical Society (ACS). A symposium in honor of Garret Miyake was held at the 244th ACS meeting in Philadelphia, August 20, 2012. Symposium speakers included Bob Waymouth of Stanford, Amy Prieto of CSU, Tobin Marks of Northwestern, Eiji Yashima of Nagoya U, Bob Grubbs of Caltech, Eugene Chen of CSU, and Garret Miyake (award address).

Jeff McPhee (Ph.D. 2010) has been promoted to Research Scientist in the Method Development and Analytical Services Laboratory in PDTS, Norwich Pharmaceuticals.

Prior to joining NPI, Jeff worked on assignment with Bristol-Myers Squibb as a Training and Compliance Specialist. Since joining Norwich, Jeff worked as a Research Associate in the MDAS finished product testing laboratory. Jeff shared his expertise as both a scientist and a leader, serving as the lab lead chemist for numerous projects.

Please welcome **David Seley**, the newest employee in the Chemistry Stockroom. David brings years of research experience as well as his expertise in chemistry. Some of you may recognize him, as he graduated with his Ph.D. in Chemistry from Colorado State University in 2008 (Parkinson Group). David also holds an MBA from CSU Pueblo.

CETYA Therapeutics Inc.
A New Company Co-Founded By Prof. Robert M. Williams

Prof. Robert M. Williams has teamed up with Dr. John Pilon, who received his Doctorate from the Department of Molecular Biology and Biochemistry at CSU, to form CETYA Therapeutics, Inc., a Fort Collins-based company, officially founded July 2012. Formed with the assistance of CSU Ventures, CETYA Therapeutics will commercialize best-in-class of the class isoform selective histone deacetylase inhibitors (HDACi's) developed by CSU Distinguished Professor Robert Williams, Prof. James Bradner of the Dana Farber Cancer Institute, located in Boston, Ma and Prof. Olaf Wiest of the University of Notre Dame. The isoform selective HDACi's synthesized by the Williams' group at CSU are promising drug candidates that may overcome the clinical limitations of non-selective HDACi's, such as suberoylanilide hydroxamic acid (SAHA), which have been the focus of significant investment and clinical development.

CETYA Therapeutics plans to leverage the broad-spectrum clinical utility of the isoform selective HDACi's and a recently awarded composition of matter patent protecting key lead molecules to develop a drug pipeline targeting unmet medical needs, especially in oncology, neurodegeneration, autoimmunity, and hemoglobinopathies. Early pre-clinical results with the lead molecules have shown potent efficacy in fetal hemoglobin induction and in antineoplastic activity in numerous cancers.

Current capitalization efforts are focused on funding via the NIH SBIR/STTR program and targeting select angel investor groups for seed funding. Initial capitalization events will drive the development of the CETYA Therapeutics drug pipeline by researching indications likely to receive Fast Track status with the FDA and gathering critical pharmacokinetic data. Additional members of the CETYA Team include Scientific Advisory Board members Prof. Doug Thamm and Prof. Dan Gustafson of the CSU Animal Cancer Center and CETYA Therapeutics Chairman of the Board Dr. Terry Opgenorth.

CSU Journal Dedicated to Publishing Undergraduate Research

Chemistry alum **Jessica Egner** (BS May 2012), served as the editor-in-chief of CSU's undergraduate research journal during her senior year. The *Journal of Undergraduate Research and Scholarly Excellence*, is one of very few undergraduate-run journals in the U.S. The journal also sponsors a design contest for the front cover to entice students to display their artwork in the magazine.

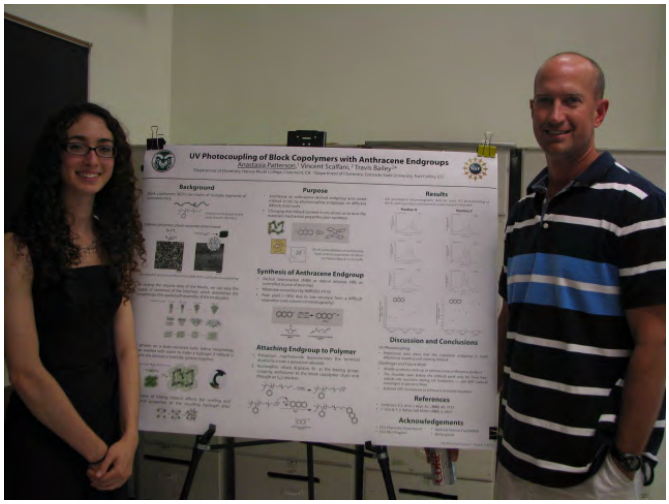
Unlike other undergraduate publications that only accept submissions from their home university, the Journal receives submissions as well as research articles from students at other universities throughout the world, with more than half of the submissions from outside CSU - including out-of-state universities as well as some from England, Canada and Chile. CSU's JUR also differs in that it is entirely student run, with students serving in all roles including Editor-in-Chief. Mark Brown, director for the Office of Undergraduate Research and Artistry at CSU, helped develop JUR and now acts as an advisor and supervisor to the journal.

The JUR, registered with the Library of Congress, was first published in fall 2010 and includes work from undergraduate students in every discipline from art to chemistry and creative writing to engineering.

Prof. Debbie Crans received one of the two first Lectureship awards by the **Japan Society of Coordination Chemistry**. Crans received the award after her lecture at the 62 Japan Society Coordination Chemistry Symposium in Toyama, Japan, in recognition of her research toward the development of coordination chemistry.

Summer REU
Making, Measuring and Building Devices: Chemistry Applied to Real World Problems

This past summer, the Chemistry Department hosted 8 undergraduates from institutions outside of Colorado State University and several CSU undergraduates as they pursued independent research projects in chemistry, materials science and nanotechnology. Students were involved in exciting cutting-edge projects across the department. They learned how to formulate and test hypotheses as well as perform experiments and computations, collect and analyze data, and develop interpretations for those results. During the course of these studies, the research participants made use of state-of-the-art techniques and instrumentation available in our department. The summer culminated with a department-wide poster session for all participants.



REU student Anastasia Patterson and her mentor, Travis Bailey

REU students Nicholas Hill (McNaughton), Kezia Brown (Reynolds) and Robby Sterling (Chen)

2012 - 2013 Student Awards

Graduate Student Awards

Aaron Bedermann	Graduate Teaching Assistant Award
Karlee Castro	Graduate Teaching Assistant Award
Timothy Dreier	Rodney Bush Fellowship in Organic Chemistry
Darrin Flanigan	Rodney Bush Fellowship in Organic Chemistry
Sarah Fredrick	Graduate Outreach and Service Award
Patrick Kent	Graduate Teaching Assistant Award
Michelle Romanishan	Graduate Teaching Assistant Award
Natthawat Semakul	Rodney Bush Fellowship in Organic Chemistry
Suzie Stevenson	Rodney Bush Fellowship in Organic Chemistry
Joshua Thomas	Graduate Teaching Assistant Award

Undergraduate Student Awards

Christopher Barbe	Rueben G. Gustavson Award
Curtis Bartell	Undergraduate Service Award
Mikaela Cherry	ACS – 2012 Undergraduate Award in Analytical Chemistry
Ji Hye Chun	Chemistry Undergraduate Scholarship
Timothy Cuevas	Chemistry Undergraduate Scholarship
Josephine Cunningham	American Institute of Chemists Award
Jordan Dennison	Undergraduate Research Award
Melissa Gray	Clifford C. Hach Memorial Scholarship
Melissa Gray	CRC Press Chemistry Achievement Award
Sven Hurney	Undergraduate Research Award
Lisa Lindburg	Jennifer Dawn Alexander Scholarship
Irene Lui	Undergraduate Research Award
Marina Maes	Chemistry Undergraduate Scholarship
Kathryn McCullough	The Merck Index Award
Benjamin Melzer	ACS - Hach Land Grant Fund Scholarship
Kenzie Moore	Clifford C. Hach Memorial Scholarship
Kristin Olsson	ACS - Hach Land Grant Fund Scholarship
Kristin Olsson	Undergraduate Outreach Award
Blaine Pedersen	Dr. Harry Puleston Memorial Scholarship
Amanda Pluntze	ACS – 2012 Undergraduate Award in Inorganic Chemistry
Alexandra Roach	Cornell Stanhope Scholarship Fund
Rebecca Schmitt	ACS - Hach Land Grant Fund Scholarship
Kelsey Schulte	Clifford C. Hach Memorial Scholarship
Hannah Vik	Cornell Stanhope Scholarship Fund
Sarah Ward	ACS - Hach Land Grant Fund Scholarship
Sarah Ward	G. H. Whiteford Scholarship
Garrett Wheeler	Clifford C. Hach Memorial Scholarship
Kellie Woll	Undergraduate Research Award

Congratulations 2011-2012 Grads!!

Doctor of Philosophy

Richard Cole (Levinger)	August 2011
Shirley Crenshaw (Barisas)	May 2012
Brandon English (Williams)	August 2011
Rebecca Faulkner (Maciel)	December 2011
Jennifer Finefield (Williams)	August 2011
Jana Jokerst (Henry)	May 2012
Mary Martucci (Prieto)	May 2012
Timothy McAfoos (Williams)	August 2011
Mallory Mentele (Henry)	May 2012
Joseph Mondloch (Finke)	August 2011
Brian Newell (Shores)	December 2011
Jennifer Noblitt (Prieto)	December 2011
Guojun Pan (Williams)	May 2012
Ryan Rafferty (Williams)	December 2011
Shannon Riha (Prieto)	August 2011
Justin Sambur (Parkinson)	August 2011
Vincent Scalfani (Bailey)	May 2012
Paul Schuber (Williams)	December 2011
Genessa Smith (Wood)	May 2012
Kristina Trevino (Fisher)	August 2011
Harit Vora (Rovis)	December 2011
John Weber (Elliott)	May 2012
Catherine Williams (Rovis)	August 2011

L-R: Ashley McDaniel, Mallory Mentele, Jana Jokerst, Prof. Rick Finke, Prof. Nancy Levinger, Genessa Smith, Ercan Bayram

Master of Science

Seth Anthony (Ladanyi/Rickey)	December 2011
Cherelle Bishop (Reynolds)	May 2012
Andrew Blair (Rickey)	May 2012
Laura Bornhoft (Chen)	August 2011
Jaruwan Chatwichien (McNaughton)	August 2011
Garrett Glover (Rovis)	May 2012
Benjamin Kohn (Maciel)	December 2011
Jacob Lowring (Ferreira)	August 2011
Erin Stache (Ferreira)	December 2011
Aaron Wolfe (Prieto)	May 2012

Bachelor of Science

Derek Bailey	December 2011*
Brittany Barrett	May 2012*
Ryan Clark	May 2012*
Rene Corral	December 2011
Josephine Cunningham	May 2012*
Jessica Egner	May 2012
Ross Gaddie	May 2012*
Gregory Goepfert	August 2011
Matthew Hansen	May 2012*
Mihyun Hong	December 2011*
Timothy Jakus	May 2012*
Juan Martinez	May 2012
Tyler Miller	May 2012*
Christopher Nickell	May 2012
Lindsey Nordhues	May 2012
Amanda Pluntze	May 2012*
William Richardson	May 2012*
Andrew Roddam	May 2012
Cassandra Schultz	May 2012
Anthony Silvestri	December 2011*
Ryan Spangler	May 2012*
Rachel Speights	December 2011
Longjiao Zhu	December 2011*

*Denotes ACS Certified Degree

L-R: Ryan Spangler, Amanda Pluntze, Tyler Miller, Brittany Barrett.

L-R: Ben Melzer, Wala Algozeeb, Ryan Spangler, Ryan Clark, Amanda Pluntze, Andy Roddam, Tim Jakus, Jessica Egner, Josephine Cunningham, Juan Martinez, Lindsay Nordhues, Cassie Schultz, Tyler Miller, Brittany Barrett.

In Memoriam

Dr. Harry Puleston (1972)

With great sadness the department said goodbye to **Pauline Puleston**, who passed away August 12. Mrs. Puleston was the wife of Dr. Harry "Shorty" Puleston, who was a renowned and beloved CSU Chemistry professor for 38 years. Last year, the Department was able to endow the scholarship that his wife and family established in his name after his death, largely due to the contributions of a former student of Dr. Puleston, Dr. Rodney Otzenberger. Thus, the endowment of this scholarship ensures the Puleston's will have a lasting legacy at CSU. Pauline remained an enthusiastic supporter of the Department even after her husband's death, enjoyed interacting with the recipients of the Puleston Memorial Scholarship and was a frequent attendee of departmental events, even up to this past year. The vast majority of past recipients of the Puleston Scholarship have gone on to pursue advanced studies in chemistry and professional programs and have secured positions in both academia and the chemical industry. The Department has lost a true friend with her passing.

Mrs. Pauline Puleston

Puleston Scholarship Recipients

Blaine Petersen (2012)
Brittany J Bartett (2011/2012)
Sarah R Ward (2010/2011)
Ran Tao (2010/2009)
Beatriz F. Da Silva (2008/2009)
Daniel Nelson (2007/2008)
Jessica Saeger (2006/2007)
Ana M Delgado (2005)
Daniel C Leslie (2004)
Christopher R Waidmann (2003)
Lisa L Winbourn (2002)
Cheng-Hsin Chang (1998)

Dr. Frank Stretton

Dr. Frank Stretton passed away July 30, 2012. Frank managed the Chemistry Stockroom for 27 years, from 1971 through 1998. During his tenure, Frank oversaw the Stockroom move from the basement to its current location on the first floor, and was responsible for the Stockroom's first custom computerized inventory and record keeping systems. He received his M.S. in Chemistry from Boston College and his Ph.D. in Organic Chemistry from Notre Dame.

Graduate student **Megan Easterly** lost her long battle with brain cancer on May 12, 2012. Megan was a fifth year Ph.D. student in Prof. Chuck Henry's research group, focusing on analytical solutions for studies of neurochemistry. Megan was also committed to outreach activities, helping local high schools teach advanced chemistry and engineering concepts as part of the NSF GK-12 Project at CSU. Megan continued to work in the lab, as her illness allowed her, up until the month prior to her death. Through her positive spirit and love of science, she inspired many other students to pursue research with greater passion and commitment and to see it for the unique opportunity it really provides. While here, Megan was a bright and shining star that will not soon be forgotten.

Megan Easterly